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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/931,268	08/16/2001	Linlin Chen	291958183US	2230
27896	7590	08/11/2004	EXAMINER	
EDEL, SHAPIRO, FINNAN & LYTTLE, LLC 1901 RESEARCH BOULEVARD SUITE 400 ROCKVILLE, MD 20850			NOGUEROLA, ALEXANDER STEPHAN	
			ART UNIT	PAPER NUMBER
			1753	

DATE MAILED: 08/11/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	09/931,268		CHEN ET AL.	
	Examiner		Art Unit	
	ALEX NOGUEROLA		1753	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 6/14/2004 and 11/10/2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8-11, 13-20 and 22 is/are allowed.
- 6) ☒ Claim(s) 1-7, 12 and 21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>6/25/2003</u> . | 6) <input checked="" type="checkbox"/> Other: <u>IDS of 6/19/2003</u> . |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. Claim 5 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to use the invention. Claim 5 requires obtaining (synthesizing) the *known* measurement standard “by executing a plurality of electroanalytical measurement cycles.” However, claim 1, from which claim 5 depends requires “comparing results of the electroanalytical measurement cycle with a [the] known measurement standard.” This implies that the measurement standard exists before an electroanalytical measurement cycle has been executed, especially since the measurement standard is known. Thus claim 5 requires a situation incompatible with claim 1 because claim 5 requires making the known measurement standard as a by-product of a plurality of measuring cycles while claim 1 requires the known measurement standard to exist before a measuring cycle has been executed.

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2. Claim 5 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to use the invention. Claim 5 is directed to a method for determining the concentration of an additive X in an electrochemical bath. This claim requires the virgin makeup solution to be saturated with the additive X and the further component Y. However, the specification explains that by saturating the virgin makeup solution with a particular bath component the effect of that component on subsequent electroanalytical measurements will be negated (page 12, last paragraph bridging to page 13). Thus, by saturating the virgin makeup solution with additive X it should not be possible to measure the concentration of additive X in the electrochemical bath extracted for measurement. No example has been given of actually performing determining the concentration of additive X using a virgin make-up solution saturated with additive X, nor has guidance been provided on how to avoid the negation effect on subsequent measurements if the virgin makeup solution saturated with the component to be measured.

3. Claim 12 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to use the invention. Claim 12 requires obtaining (creating) the *known* measurement curve "by executing a plurality of electroanalytical measurement cycles."

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However, claim 8, from which claim 12 depends requires "comparing results of the at least one electroanalytical measurement cycle with a [the] known measurement curve." This implies that the measurement curve exists before an electroanalytical measurement cycle has been executed, especially since the measurement curve is known. Thus claim 12 requires a situation incompatible with claim 8 because claim 12 requires making the known measurement curve after executing a plurality of measuring cycles while claim 8 requires the known measurement curve to exist before a measuring cycle has been executed.

4. Claim 12 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to use the invention. Claim 12 is directed to a method for determining the concentration of suppressor in an electrochemical bath. This claim requires the virgin makeup solution to be saturated with suppressor and enhancer. However, the specification explains that by saturating the virgin makeup solution with a particular bath component the effect of that component on subsequent electroanalytical measurements will be negated (page 12, last paragraph bridging to page 13). Thus, by saturating the virgin makeup solution with suppressor it should not be possible to measure the concentration of suppressor in the electrochemical bath extracted for measurement. No example has been given of actually performing determining the

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concentration of suppressor using a virgin make-up solution saturated with suppressor, nor has guidance been provided on how to avoid the negation effect on subsequent measurements if the virgin makeup solution saturated with the component to be measured.

5. Claim 21 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the

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enablement requirement. The claim contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to use the invention. Claim 21 is directed to an automated chemical management system configured to determine the concentration of a first bath additive in an electrochemical bath. This claim requires the virgin makeup solution to be saturated with the first bath additive. However, the specification explains that by saturating the virgin makeup solution with a particular bath component the effect of that component on subsequent electroanalytical measurements will be negated (page 12, last paragraph bridging to page 13). Thus, by saturating the virgin makeup solution with the first bath additive it should not be possible to measure the concentration of first bath additive in the electrochemical bath extracted for measurement. No example has been given of actually performing determining the concentration of first bath additive using a virgin make-up solution saturated with suppressor, nor has guidance been provided on how to avoid the negation effect on subsequent measurements if the virgin makeup solution saturated with the component to be measured.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 1-4, 6, and 7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention:

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a) Claim 1 recites the limitation "further additive" in lines 5-6 . There is insufficient antecedent basis for this limitation in the claim.

8. Note that dependent claims will have the deficiencies of base and intervening claims.

Allowable Subject Matter

9. Claims 8-11, 13-20 and 22 are allowed.

10. Claim 1 would be allowable if rewritten or amended to overcome the rejection under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

11. Claims 2-4, 6, and 7 would be allowable if rewritten to overcome the rejection under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

12. The following is a statement of reasons for the indication of allowable subject matter:

a) Claim 1: the nonobvious limitation in the combination of limitations is the requirement that the starting solution be saturated with a further component Y (the examiner understands the limitation of “the starting solution comprising virgin makeup solution that is saturated with the further additive” to require the starting solution to also be saturated with further component Y). Chang et al. (US 5,196,096) does not require the starting solution (“basis solution”) to be saturated with component Y (an additive other than the one whose concentration is to be determined). The starting solution is in fact diluted 100:1 with respect to a concentrated starting solution before it is added to the predetermined amount of electrochemical bath (col. 5, ln. 20 – col. 6, ln. 19);

b) Claims 2-4, 6, and 7 depend from allowable claim 1;

c) Claim 8: the nonobvious limitation in the combination of limitations is the requirement that the starting solution be saturated with the enhancer (the examiner understands the limitation of “a starting solution comprising virgin makeup solution that is saturated with the enhancer” to require the starting solution to also be saturated with enhancer. Chang et al. (US 5,196,096) does not require the starting solution (“basis solution”) to be saturated with an additive, such as an enhancer. The starting solution is in fact diluted 100:1 with respect to a concentrated starting solution before it is added to the predetermined amount of electrochemical bath (col. 5, ln. 20 – col. 6, ln. 19);

- d) Claims 9-11 depend from allowable claim 8;
- e) Claim 13: the nonobvious limitation in the combination of limitations is the requirement that the mixed solution be saturated with a further component Y. Chang et al. (US 5,196,096) does not require the mixed solution to be saturated with a component (additive). The starting solution is in fact diluted 100:1 with respect to a concentrated starting solution before it is added to the predetermined amount of electrochemical bath (col. 5, ln. 20 – col. 6, ln. 19);
- f) Claim 14: the nonobvious limitation in the combination of limitations is the requirement that the starting solution be saturated with a further component Y. Chang et al. (US 5,196,096) does not require the starting solution (“basis solution”) to be saturated with a component (additive). The starting solution is in fact diluted 100:1 with respect to a concentrated starting solution before it is added to the predetermined amount of electrochemical bath (col. 5, ln. 20 – col. 6, ln. 19);
- g) Claims 15 and 16 depend from allowable claim 14;
- h) Claim 17: the nonobvious limitation in the combination of limitations is the requirement that the programmable control system be programmed to dispense “an amount of virgin makeup solution that is saturated with the second bath additive into the container to form a mixed bath.” Chang et al. (US 5,196,096) does not require the virgin

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makeup solution ("basis solution") to be saturated with a bath additive. The virgin makeup solution is in fact diluted 100:1 with respect to a concentrated virgin makeup solution before it is dispensed (col. 5, ln. 20 – col. 6, ln. 19); and

i) Claims 18-20 and 22 depend from allowable claim 17.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALEX NOGUEROLA whose telephone number is (571) 272-1343. The examiner can normally be reached on M-F 8:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, NAM NGUYEN can be reached on (571) 272-1342. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Alex Noguerola
Primary Examiner
AU 1753
August 9, 2004